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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALAIN BETHUNE

Appeal 2008-1106
Application 09/688,961
Technology Center 1700

Decided: February 29, 2008

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
ROMULO H. DELMENDO, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1, 3-10, 12, 13, 21, 22, 24-26, 28-35, 37-43, 46, 47, 56, 57, 60, and 61. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellant claims a hot marking method which enables decoration to be applied to an article. The method comprises: supplying a multilayer

structure 10 comprising a layer of varnish 14, a backing layer 11, and a layer of decoration 15; bringing the multilayer structure into contact with the article A; applying pressure and heat to the backing layer to thereby effect transfer onto the article; withdrawing the backing layer to thereby leave on the article the decoration layer having the varnish layer thereon; and causing the aforementioned varnish layer to harden by exposing it to the UV radiation, wherein the varnish is a UV thermal varnish and wherein pre-curing of the varnish is initiated by exposure to heat prior to the transfer (claim 1; Figs. 1-4).

Representative claim 1 reads as follows:

1. A hot marking method enabling decoration to be made on an article comprising:

supplying a multilayer structure comprising a layer of varnish that hardens under the effect of radiation, a backing layer, and a layer of decoration, the varnish layer being situated between the backing layer and the decoration layer;

bringing said multilayer structure into contact with the article;

applying pressure and heat to the backing layer at a location where it is desired to transfer the decoration layer onto the article, the varnish layer being transferred locally onto the article together with the decoration layer;

withdrawing the backing layer; and

causing the layer of varnish that has been transferred onto the article to harden by exposing it to said radiation,

wherein the varnish layer and the decoration layer both remain on an external surface of the article after the transfer,

wherein the varnish used is a UV thermal varnish,

and wherein pre-curing of the varnish is initiated by exposure to heat prior to the transfer.

The references set forth below are relied upon by the Examiner as evidence of obviousness:

Davis	1,124,869	Jan. 12, 1915
Howard	4,133,723	Jan. 9, 1979
Reed	4,294,641	Oct. 13, 1981
Doi (as translated)	JP 01,202492	Aug. 15, 1989
Kamen	5,391,247	Feb. 21, 1995
Hekal	5,581,978	Dec. 10, 1996

Claims 1, 4-10, 12, 13, 21, 24-26, 29-35, 37-39, 41, 46, 47, 56, 57, 60, and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Doi in view of Reed; the remaining claims on appeal are correspondingly rejected over these references and various combinations of the Hekal, Howard, Kamen, and Davis references.

The arguments presented in the Appeal Brief (i.e., filed December 19, 2006) and Reply Brief are solely directed to independent claims 1 and 26 and specifically the limitation therein which requires “pre-curing of the varnish is initiated by exposure to heat prior to the transfer.” Therefore, the dispositive issue in this appeal is whether the Examiner has properly concluded that it would have been obvious for one with ordinary skill in this

art to modify the method of Doi so as to achieve Doi's desired pre-curing step by exposing the varnish to heat rather than UV radiation (Ans. 5).

For the reasons expressed in the Answer and below, we will sustain each of the above-noted rejections.

As an initial matter, we reiterate that only the previously quoted limitation of independent claims 1 and 26 has been contested by Appellant in the record of this appeal. No other limitations or claims have been separately argued. For these reasons and because independent claims 46 and 47 do not contain the limitation solely argued by Appellant, we summarily sustain the § 103 rejection of these claims and of claims 60 and 61 which depend therefrom, as being unpatentable of Doi in view of Reed.

As for argued independent claims 1 and 26, the method defined by these claims requires a UV thermal varnish which is pre-cured by exposure to heat prior to transfer and then fully cured (i.e., hardened) after transfer via radiation (i.e., UV radiation). Similarly, in the method of Doi, the varnish is pre-cured prior to transfer and then fully cured after transfer albeit with UV radiation in each curing step. Therefore, as correctly argued by Appellant, claims 1 and 26 distinguish from Doi via the requirement for pre-curing by exposure to heat rather than UV as in Doi.

In the decoration transfer art under consideration, it is known to effect curing by heat. This is evinced by Reed (para. bridging cols. 5-6). This also is evinced by the Doi reference which alludes to heat-curing in discussing the advantages of a UV curable resin (i.e., "heat is not needed to cure the

resin and the resin can instantaneously be cured”; Translation 1, penultimate para.).

Under these circumstances, we find that both UV curable resins or varnishes as well as heat curable resins or varnishes were known to those with ordinary skill in this art, and Appellant does not contend otherwise. Instead, Appellant points out that the varnish required by claims 1 and 26 is curable by both UV radiation and thermal exposure whereas the corresponding materials of Doi and Reed are curable by either one or the other but not both (Reply Br. 2).

While this point is correct, the fact that UV curable varnishes and heat curable varnishes were known in the prior art supports a conclusion that it would have been obvious for an artisan to form a third varnish which is both UV and heat curable and which is to be used for the very same purpose as the first two mentioned varnishes. The idea of combining UV and heat curable properties flows logically from their having been individually taught in the prior art. *Compare In re Kerkhoven*, 626 F.2d 846, 850 (CCPA 1980).

Moreover, this obviousness conclusion is reinforced by the fact that Appellant’s Specification discloses the here-claimed UV thermal varnish only generally with no details as to how such a varnish would be prepared or where such a varnish would be obtained (Spec. 4). That is, the subject Specification creates the presumption that UV thermal varnishes were known to those with ordinary skill in this art.

Appellant argues that it would not have been obvious for an artisan to modify Doi’s method by using a UV thermal varnish and by pre-curing the

varnish with heat (App. Br. 12; Reply Br. 3-4). We agree with the Examiner, however, that an artisan would have been motivated to so-modify the method of Doi in order to enhance functionality (Ans. 5, 11). In other words, an artisan would have used a UV thermal varnish in order to obtain the capability of curing with either UV or heat with the curing technique dependent upon matters of convenience.

For example, it would have been obvious to effect Doi's pre-curing step via exposure to heat since this portion of Doi's method involves manufacture of the decorative transfer sheet wherein the resin or varnish is dried using hot air of 100°C (Translation Examples at penultimate and last pages). This is because it would have been convenient and efficient to use heat at this portion of Doi's method for both drying and pre-curing the resin or varnish. On the other hand, an artisan would have practiced Doi's step of using UV radiation to fully cure the resin or varnish after decoration transfer in order to obtain Doi's above discussed advantage of an instantaneous cure (Translation 1, penultimate para.).

The result of so-modifying the method of Doi is predictable. That is, the use of heat to effect Doi's pre-curing step would yield the predictable result of a pre-cured resin or varnish as desired by Doi. As the Supreme Court has recently explained, the combination of familiar elements (e.g., the use of heat for curing a UV thermal varnish or resin) according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739 (2007).

In light of the foregoing, we sustain the § 103 rejection of independent claims 1 and 26 as being unpatentable over Doi in view of Reed. We also sustain the § 103 rejections of all claims which depend from claims 1 and 26 since these dependent claims (including those which are separately rejected) have not been separately argued by Appellant.

In summary, each of the § 103 rejections advanced on this appeal has been sustained.

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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